

**UNIVERSITY OF CALIFORNIA BERKELEY
INSTITUTE OF TRANSPORTATION STUDIES
TECHNOLOGY TRANSFER PROGRAM**

Consolidated LTAP Quarterly Report, April-June 2006

**LTAP 6073 (005) and LTAP 6073 (014)
The Basic FHWA program & DRI supplement**

California's Local Technical Assistance Program (LTAP) provides a range of information services, technical assistance, and training to public agencies statewide, with special attention to the needs of smaller and rural communities. LTAP activities generally fall into seven core tasks (including a task for "Special Projects") as defined by the national program. Support from Caltrans Division of Research and Innovation (DRI) supplements the basic FHWA/Local Assistance allocation. LTAP is a continuing program administered by the University since its inception in 1983.

Task 1: Compile and maintain a client mailing list/database

Our AceWare database currently contains 23,166 individual records. During the past quarter, we have actively searched and corrected multiple duplications of records, eliminated incorrect addresses from the system based on returned mailings from the catalogue and newsletters. We have acted on all emailed requests for address, email and contact information changes within 24 hours. We have corrected all departmental/company/organizational change of addresses by locating each individual and updating them with the new company address.

Task 2: Publish quarterly newsletters

The 16-page Summer 2006 newsletter was printed in full-color. The print edition was mailed to approximately 16,500 individuals. The newsletter was archived and posted on the Technology Transfer Program's website in pdf and html formats.

This newsletter was titled "From Rubber to Road." The articles in the newsletter can be grouped into two primary categories: road maintenance and funding. The cover photo was an eye-catching pile of old tires destined for a new life as rubberized asphalt concrete. One article covered permanent vegetation control methods for highway roadsides (also known as hardscaping). This article covered six proven methods used by Caltrans to control growth at the side of roads, and four methods that are under evaluation. The technologies covered in this article are relatively inexpensive and easy for local agencies to adopt. Another article introduced readers to software developed by researchers at UC Berkeley's Institute of Transportation Studies and Caltrans to develop road construction scenarios that can result in projects that take less time and cause fewer delays. An article about the benefits of rubberized asphalt concrete (RAC) explains to readers how to get state grants for using RAC. Two articles about transportation funding cover creative, or "innovative" financing programs, and SAFETEA-LU's increased

funding allowances for training. The Resources column this quarter offered an introduction to sustainable transportation for agencies, and provided a list of articles that are geared toward local agencies' use of the principles of sustainable transportation.

The Summer 2006 issue included notices about many of Tech Transfer's free resources and training opportunities. Our program-wide Guide to Services was sent to subscribers just before this newsletter, so we included a notice to remind readers to look for the the guide in the mail - with a photo of our beautiful full-color training calendar to jog their memory. We included notices to inform readers of the new, free online training we offer covering Federal Aid topics, and of several popular publications available free from the Going...Going...Gone service. A full page listing at the end of the newsletter listed our courses for planners. The back cover of the newsletter was a training calendar for September through November.

During this quarter, the California LTAP Center approved **four** requests to reprint articles from our newsletters:

→ The Kentucky LTAP Center requested reprint permission for "Meth Waste Hazards" from Spring 2006

→ The Kentucky, Maryland and Nebraska LTAP Centers requested reprint permission for "The Safety Edge: Pavement Edge Treatment" from Summer 2005.

Task 3: Distribute Technology Transfer Materials

1. Purchase and distribute library materials for LTAP clients

1.a Purchase videos and CDs

Three multimedia items were purchased for the LTAP collection this quarter; these items will be reviewed and added to the on-line database as soon as the new administrative interface for the video database has been completed (see below):

CD-714	Basic Traffic Control for Utility Operations, ATSSA, 2002
CD-715	Managing Pavement Edge Drop-offs, FHWA, 2005
CD-716	Highway Safety and Trees: The Delicate Balance, FHWA, n.d.

1.b Purchase other library items (books)

No other library items were purchased/ received this quarter.

1.c Distribution of materials from the library's collection

35 multimedia training materials and **23 other items** from the library collection were loaned or/distributed this quarter to staff from **21 different agencies**, including the Cities of Campbell, La Mirada, Lancaster, San Diego, Santa Rosa, Stockton, and Watsonville; the Town of Atherton; the counties of San Bernardino, Stanislaus, Mendocino, and Yuba; SF Muni; the Bay Area Air Quality Management District; LA MTA; Southern California Regional Rail Authority; the California/EPA Air Resources Board; Caltrans Headquarters (various divisions); Caltrans districts 6 and 7; and Noctua-Covelo. (details in Appendix A)

1.d On-line individual distribution of duplicate materials: Going...Going...Gone (G3)

The Going...Going...Gone (G3) program distributes duplicate reports, journals, manuals, books, CD/DVDs, pamphlets, and other materials received by the ITS Library and/or the CA-LTAP Center from government and private sources to eligible employees of California cities, counties, regional and state agencies/departments for free. During this quarter, the G3 program distributed **978 items** to **48 eligible California agencies** using the on-line requesting forms, including 17 cities, 14 counties, 3 transit operators, 9 Caltrans districts, 1 other state agency, 2 Federal agencies located in California, and 2 other state DOT/LTAP. Details of which items were distributed are available on request..

1.e Bulk distributions of materials

No bulk distributions outside the G3 process were done this quarter.

2. Enter Caltrans-sponsored research into the national TRIS database

The national TRIS database, created and maintained by the Transportation Research Board of the National Academy of Sciences, is the premier international bibliographic reference service for transportation publications. (TRIS should not be confused with Research in Progress, also maintained by TRB.) Only three entities are deemed to have sufficient professional capacity by TRB to enter materials directly into this database: TRB itself; Northwestern University Transportation Library, and UC Berkeley's Harmer E Davis Transportation Library housed at the Institute of Transportation Studies. With support from LTAP (005), ITS library staff enter Caltrans-sponsored research publications that would not otherwise find their way into TRIS by creating bibliographic entries and abstracts for these material. Reports by faculty and researchers associated with the Institute of Transportation Studies that are entered into TRIS through normal Library work are not included among these reports. The purpose of this project is to ensure that all Caltrans research products have high international visibility.

During this quarter, 36 Caltrans-sponsored research reports were received, catalogued, and entered into TRIS by library staff. Appropriate thesaurus terms from the national Transportation Research Thesaurus (TRT) were assigned to the entries, and abstracts were written for each publication. Files were submitted to TRB in July, August, and September.. The list of titles entered into TRIS during this quarter is attached in Appendix B.

Task 4: Provide Information Services and Technical Assistance

1. Provide Free reference and library services

The ITS Library responded to four (4)) reference inquiries this quarter as follows:

Agency/Requester	Topic
Marin County Transit District/ Sr. Transportation Planner	Taxi programs to replace late-night scheduled transit service
San Diego Association of Governments/ RideLink Manager	Federal or official definitions of vanpools and shuttles
MTC/ Translink Assistant Project Manager	Public involvement/participation efforts and Native American Tribes
Mendocino County DOT/ Civil Engineer	Origin of 85th percentile rule for establishing speed limits

2. Field experts

CA-LTAP supports activities of three part-time circuit riding field agents as well as activities of an expert in paving issues and an expert in transportation planning who are available statewide to monitor training and technical assistance needs as well as to respond to specific questions and issues as they arise. Their activities included:

Don Raffaelli (Northern California)

- Received call from City Engineer for the City of San Leandro about costs for rehabilitating and retrofitting section of I-880.
- Attended the NorCal CEAC Conference in Chester. Distributed and presented Tech Transfer catalogues, road show flyers and inspector's manuals.
- Met with County Road Superintendent for Del Norte County and discussed road maintenance issues. Distributed Tech Transfer materials with the City Clerk of Crescent City.
- Met with City Engineer/DPW Director for City of Ukiah. Discussed several upcoming projects and reviewed several upcoming Tech Transfer classes in Northern California.
- Met with City Engineer for City of Lakeport and reviewed several upcoming Tech Transfer classes in Northern California.
- Attended Sacramento Mother Lode CEAC. Promoted upcoming ITS classes and road shows. Discussed the de-certification of projects that could not be delivered.
- Drop-in visits to Cities of Roseville, Rocklin and Lincoln to promote upcoming ITS classes and road shows.
- Met with DPW Director/City Engineer for City of Woodland. Reviewed an accident report that occurred on a city project and advised him to have the accident reconstructionist contracted with to provide a formal report.

- Drop-in visit to Williams and Willits. Distributed Tech Transfer class schedules on which Northern California classes were highlighted.
- Drop-in visit to Cities of Redding, Red Bluff and Chico. Distributed Tech Transfer class schedules on which Northern California classes were highlighted.
- Met with City Engineer for City of Paradise. Reviewed, discussed and provided comments on city plans for two projects.
- Attended Shasta Cascade Branch APWA meeting at Whiskey Creek State Park. Distributed brochures, catalogs, pamphlets and Larry Santucci's work papers dealing with asphalt concrete design and maintenance. Made a short presentation emphasizing upcoming Northern California classes.
- Attended the CEAC meeting in Chester. Distributed Inspector's manuals and Larry Santucci's work papers dealing with asphalt concrete design and maintenance. Reviewed and discussed upcoming ITS classes in Northern California.
- Met with Road Superintendent for Del Norte County and several staff from Crescent City. Reviewed ITS services and his involvement. Encouraged them to explore roads shows. Discussed the pluses and minuses of Asphalt Concrete. Distributed Tech Transfer materials.

Les Jorgenson (Central California)

No activities reported this quarter.

Dave Royer (Southern California)

- Provided information on "Research Guidelines for Designing Traffic Signals at Jogged Intersections" to Mike Kenney of Rick Engineering.
- Provided information on "California's Special Requirements for Work Zone Traffic Control" to Mike Berk of Dicke Tool MFG.
- Provided information on content and cost for the Tech Transfer Traffic Engineering Courses to the City of Corona.
- Responded to City of Campbell's request for information on traffic sign colors. Contacted Devices committee for information.
- Attended Southern California Section of ITE Meeting. Distributed and presented new Tech Transfer Catalogs and Newsletters.
- Attended the Riverside-San Bernardino Section ITE Meeting to make a brief presentation on the ITS/Tech Transfer Training Course Catalog for 06/07.
- Discussed with/and provided information on ITS/Tech Transfer Work Zone and Flagger Training to Ray Thornton of Kennco Plumbing Corporation in Santa Clarita on 9/29.

Larry Santucci (Statewide: Pavements)

- Assisted Yolo County with Chip Seal over Fabric Preservation of Cracked Pavements.
- Assisted City of Modesto on Severe Longitudinal Cracking in Asphalt Pavements.
- Discussed status of projects with transfer of assignments from Nate to Ted.
- Worked on Asphalt Materials Road Show.

- Assisted San Luis Obispo Department of Public Works with Pavement Compaction Issues.
- Worked on Technical Topics Article on Polymer Modified PG Asphalts.
- Assisted City of Campbell and Caltrans with Pavement Performance Issues and PG Asphalt Selection.
- Sent Technical Topics Draft on Polymer Modified PG Asphalts to Caltrans and PG Task Group for review.
- Discussed and finalized draft of Asphalt Materials Road Show with Roger Smith.

Arnie Sherwood (Statewide: Planning)

- Attended and participated in RTPA and CTC meetings in San Diego. Distributed Tech Transfer Materials.
- Reviewed and discussed PM 2.5 guidance with FHWA.
- Discussed the redesign of course, RTPA meeting materials with Nate Gilbertson.
- Read and commented on FHWA proposed rulemaking on RTP's and TIP's. Discussed with FHWA on proposed rulemaking.
- Attended and participated in RTPA and CTC meetings in Santa Barbara.
- Reviewed EPA proposed new standards on PM10 and PM2.5 to maintain currency.
- Reviewed proposed FHWA rulemaking revisions on RTP and RTIP's from local agency perspective.

3. Web site

A variety of general web maintenance tasks were performed this quarter, including posting the summer newsletter in pdf and html versions, posting presentations from the Western Rail Safety Conference (held this year in Vancouver, Washington), and fixed a number of potential security vulnerabilities in our training clearinghouse, G3, and the video library. In addition, we updated the methodology used for web log analysis so that quantification in these reports is improved. We discovered in making this change that we had been undercounting usage.

The number of distinct hosts served during this quarter was 27,188 (plus about 2,200 additional users of the AceWeb—registration—site). Last quarter we reported 19,440 distinct hosts (2400 AceWeb users). Data on successful requests for pages now equals the approximate number of pages viewed by humans, vs web crawling machines and search engines). This number provides a snapshot of how much time someone might use exploring our site looking for information. Total for the period is 98,851 or about 3 times the number of unique hosts. Not including training schedule and registration pages, which are viewed via the AceWeb interface, the most popular items on the LTAP Website remain, the newsletters, G3, and the training clearinghouse and video library

4. Exhibit booth/ and other outreach

We exhibited at the Oakland Car-free Day -- the location was right in the middle of the plaza where the city offices are located. We had all the usual suspects (catalogs, bookmarks, TSE and C-Zone brochures, road show fliers), plus Alyssa created a special flier highlighting our classes that have planning, bicycle and pedestrian content to honor the "car-free" theme. We also handed out inspector job guides. While we were there, we visited the Oakland DPW and planning offices to distribute catalogs.

Alyssa and I are scheduled to exhibit at APWA in San Ramon on Wednesday and Thursday of this week, and at CEAC in Anaheim at the end of this month.

The LTAP table top exhibit booth was set up at the Oakland Car-free Day, right in the middle of the Oakland City Plaza. Many of those stopping at the exhibit were local city and county workers. We created a brochure highlighting our planning, bicycle, and pedestrian training courses in honor of the event and handed out Guides to Services, newsletters, and roadshow fliers to many city workers. We also handed out about 50 Inspector Job Guides. While in Oakland, TechTransfer staff stopped by the Oakland public works and planning departments to pass out program information. Next quarter the LTAP exhibit will travel to the APWA meeting in San Ramon and CEAC in Anaheim.

5. Peer to peer network

Progress towards establishing a peer to peer network slowed this quarter due to loss of the key staff person at Tech Transfer who had been charged with initial planning of the project (Nate Gilbertson). This position has been successfully recruited and we are hoping to restart the peer to peer concept including discussion with Caltrans DRI regarding potential for support in the fall or winter quarter of activity..

Task 5: Provide Training

1. On request road show workshops

During this quarter we delivered 4 additional on-request road show workshops @ \$600 for local host agencies in California. Attendance for these 4 road shows totaled 62 (many individuals attended all four which were sponsored by the Maintenance Superintendents Association.

PD-14.1 Your Role as Maintenance Supervisor & PD-14.2 Communications Skills and Delegation Tools were delivered back to back on August 28, 2006 in Santa Clara for 31 people from the cities of Sunnyvale (4), Santa Clara (6), Lodi (1), Redding (1), San Jose (6), Woodland (2), Los Altos (1), Gonzales (1), Foster City (5), Walnut Creek (3), the Morongo Band of Mission Indians (1), Carlsbad (1), and Santa Clara County (1).

PD-14.3 Motivating and Coaching the Maintenance Worker and *PD-14.4 Legal Issues and Health and Safety Considerations for the Maintenance Supervisor* were delivered back to back on August 29 in Santa Clara for 37 people from the cities of San Jose (8), Sunnyvale (7), Santa Clara (4), Lodi (1), Redding (1), Woodland (2), Los Altos (1), Gonzales (1), Foster City (5), Walnut Creek (5), the Morongo Band of Mission Indians (1), and Carlsbad (1).

2. California training clearinghouse

During this quarter, the Training Clearinghouse was continuously updated. Whenever information about new classes became available, it is now added to the database. The Clearinghouse includes about 500 currently scheduled short courses, 300 on-line training courses, and information regarding more than 138 certificate programs relevant to areas of transportation practice.

3. Video training library

During this quarter we completed work on a new interface that will allow staff to update and maintain the media library of 686 training videos and CDs on a real time basis. In addition, the library includes links to more than two dozen streaming videos that can be viewed on-line. We began planning on an upgrade and integration of information in the clearinghouse and media library to make these resources more accessible to users based on their content needs rather than media type.

Task 6: Evaluate Effectiveness of the Program

Training evaluation: Student evaluation forms (Level I) are distributed and completed for all road show workshops. Level II evaluations are in the form of practical hands-on exercises completed by students and monitored by instructors, who ensure that 95% of the class participants meet the course learning objectives.

Task 7: Special Projects

NLTAPA

LTAP Director Linda Howe-Steiger continued to represent western LTAP centers on the Executive Committee of the National LTAP Association (NLTAPA), attending several business meetings and committee meetings at the annual LTAP conference hosted this year in St. Petersburg in conjunction with the International Technology Transfer Symposium and TRB's summer meeting of committees on the conduct of research and technology transfer. Ms. Steiger will rotate off the executive board after this meeting, with the note that national exposure for the California LTAP program through this service has helped elevate understanding and appreciation of California's program in a number of venues.

APPENDIX A: DISTRIBUTIONS OF LIBRARY MATERIALS

1. Printed publications from library collection (23 items)

Agency	Requester title	Publication titles	Items
City of Campbell	City Attorney	Safety and environmental considerations in use of commercial variable message signs	1
Mendocino County	Civil Engineer	Speed regulation Notes on traffic speed Percentile speed on existing highways Speed habits observed on rural highway	4
Yuba County	Civil Engineer	Manual for condition evaluation of bridges The concrete bridge AASHTO LFRD bridge design specifications Bridge design practice Guide specs for bridge railings`	5
Bay Area Air Quality Mngt Dist	Planner	Land use impacts of transportation investments	1
LA MTA	Librarian	Santa Monica Freeway smart corridor	1
Southern California Regional Rail Authority	Legislative Affairs Manager	Persistence is key to generating revenue through ballot measures	1
Caltrans Headqtrs	Traffic Engineer	Pavement testing facility	1
Caltrans Headqtrs	University Contract Administrator	Evaluation of a California demonstration of an automated airport ground transportation information system	1
Caltrans Headqtrs	Traffic Engineer	Movement and distribution patterns of pronghorn antelope	1
Caltrans Headqtrs	Traffic Engineer	Role of city planning in child pedestrian safety Protection of pedestrians at night Influence of painted crosswalks on behavior of pedestrians and automobile drivers	3
Caltrans Headqtrs	Engineer	Comparisons of full-scale embankment tests with computer simulations	1
Cal/EPA Air Resources Board	Librarian	Incorporating feedback in travel forecasting Method of successive averages vs Evans algorithm Introducing feedback into four-step travel forecasting procedure	3

2. Multimedia training materials (35 items)

Agency	Requester Title	Publication titles	Items
Town of Atherton	Assistant Engineer	VH-569 Full Depth Reclamation VH-574 Pavement Marking Inspection: Traffic Paint VH-401 Understanding the Vibratory Roller CD-524 A Guide for Hot Mix Asphalt Pavement VH-449 What to Expect When You're Inspecting VH-437 Concrete Field Tests: What Do the Results Mean? VH-494 Hot Mix Asphalt: Mix Design VH-495 Hot Mix Asphalt: Pavement Construction VH-318 Asphalt Paving Inspection	9
City of La Mirada	Administrative Aide	VH-499 Safe, Efficient Lane Closure VH-595 Traffic Control Safety	2
City of La Mirada	Administrative Aide	VH-604 Managing Trees for Public Safety: The Role of Landscape Maintenance	1
City of Lancaster	Public Works Supervisor	VH-587 On Again, Off Again: A Guide to Mounting and Dismounting Heavy Equipment VH-596 Loading and Unloading and Transporting Heavy Equipment VH-598 Paving Safety VH-564 Portable Air Compressor Safety	4
City of San Diego	Senior Traffic Engineer	CD-635 Risk Management and Tort Liability on the Roadways: What You Need to Know to Protect Your Agency	1
City of Santa Rosa	C.E. Technician II	VH-481 Using Your Eyes Effectively When Driving VH-427 Sharing the Road VH-423 Breaking the Accident Chain of Events	3
City of Stockton	Project Engineer	VH-581 Seeing is Believing: Safely Exposing Buried Utilities	1
City of Watsonville	Traffic Systems Coordinator	VH-444 Selection and Use of Consultants CD-656 Reducing Tort Liability in California Work Zones	2

San Bernardino County Solid Waste Department	Operations Inspector	VH-600 Surveying Safety VH-664 Backing Up	2
Stanislaus County Public Works	Senior Road Maintenance Worker	VH-667 Tips from the Pros: Backhoe Loader VH-664 Backing Up VH-68 In Memory of Caltrans Maintenance Workers VH-606 Flagging Operations and Procedures	4
SF Municipal Transportation Agency	Pedestrian Program Manager	CD- 635 Risk Management & Tort Liability (Video)	1
Caltrans – District 6	Administrative Aide	VH-649 Driving Modern Roundabouts CD-699 Introduction to Travel Demand Forecasting: Self Instructional CD-ROM CD-709 Smart Growth Street Design	3
Caltrans – District 7	Associate Administrator	VH-447 Skin Safety with Cement and Concrete	1
Noctua-Covelo	Concrete Superintendent	VH-325 Sampling Aggregates	1

LTAP supported library services were delivered to the following agencies during the July-September, 2006

Cities – 22 (190 items)

Atherton
Bell
Burbank
Campbell
Compton
Escalon
Fontana
Galt
Huntington Beach
La Mirada
Lancaster

Milpitas
Moreno Valley
Napa
Pleasanton
Rancho Cucamonga
Red Bluff
San Diego
Santa Rosa
Stockton
Vernon
Watsonville

Counties -14 (164 items)

Alpine
 Contra Costa
 Los Angeles
 Mendocino
 Sacramento
 San Bernadino
 San Joaquin

San Luis Obispo
 Santa Barbara
 Shasta
 Solano
 Stanislaus
 Ventura
 Yuba

MPOs – 4 (15 items)

Bay Area Air Management Quality
 District
 LA Metropolitan Transportation
 Authority
 MTC
 San Diego Association of Governments

Transit – 3 (11 items)

Golden Gate Bridge District
 Marin County Transit District
 San Francisco Municipal Transportation
 Agency

Caltrans – Headquarters and 9 districts (562 items)

Caltrans Headquarters (7 items)
 Caltrans Districts 1, 2, 3, 4, 5, 6, 7, 8, 11
 (555 items)

Other CA state agency (51 items)

Cal/EPA Air Resources Board
 LTAP (Marysville)

Other state LTAP (1 item)

Montezuma, Colorado

Other (38 items)

Air Force HQ AFMC
 Noctua-Covelo
 Sierra National Forest

APPENDIX B**Caltrans-Sponsored Publications Entered into the TRIS Database***Caltrans-Sponsored Publications Entered into the TRIS Database*

Evaluation of LIDAR for landslide mapping Willis, Chris J California Dept. of Transportation.
 Division of Research & Innovation 2006

CalNail - A design tool for soil nail projects using field case histories Turner, Loren L; Parnell,
 Jared California Dept. of Transportation, Division of Research & Innovation June 2006

Laboratory testing of gross solids removal devices Younis, Bassam A. University of California,
 Davis. Department of Civil and Environmental Engineering May 2005

Small-Scale Studies on Low Intensity Chemical Dosing (LICD) for Treatment of Highway Runoff
Bachand, Philip A.M. 2006

Third National Transportation Security Summit: Rail Security - A Symposium on Terrorism and Business Continuity Mineta Transportation Institute April 2006

The Pasadena Gold Line; Development Strategies, Location Decisions, and Travel Characteristics along a New Rail Line in the Los Angeles Region Lund, Hollie; Wilson, Richard W. Mineta Transportation Institute April 2005

Distributed architecture for real-time coordination in transit networks Bukkapatnam, Satish; Dessouky, Maged; Jiamin, Zhao METRANS Transportation Center July 2003

Development and Methods for Handling Empty Containers with Applications in the Los Angeles/Long Beach Port Area Ioannou, Petros; Chassiakos, Anastasios; Julia, Hossein; Valencia, Gil METRANS Transportation Center March 2006

Freight Routing and Containerization in a Package Network that Accounts for Sortation Constraints and Costs Chayanupatkul, Apichat; Hall, Randolph METRANS Transportation Center February 2004

The Economic Effects of Highway Widening: Tolled Lanes vs. General-Purpose Lanes - Using an Integrated Impact Model Gordon, Peter; Moore, James E; Richardson, Harry W; Williamson, Christopher METRANS Transportation Center March 2004

Cooperative Time Window Generation for Cargo Delivery/Pick up with Application to Container Terminals Ioannou, Petros; Chassiakos, Anastasios; Julia, Hossein; Valencia, Gil METRANS Transportation Center February 2006

Investigating the role of driver decision styles in highway-rail crossing accidents Meshkati, Najmedin; Rahimi, Mansour; Driver, Michael J METRANS December 2003

Long term evaluation of characteristics in an artificial Northern California vernal pool system Moore, Craig; Bastian, Monica; Hunt, Harold California. Dept. of Transportation New Technology and Research Program April 2003

Update 2004: The California Aviation System: Current Status and Recent Trends Aweiss, Arwa; Kanafani, Adib NEXTOR June 2004

Northern California Vehicle Infrastructure Integration Case Study Kelly, Michael J August 2004

Hydrology of Vernal Pools at Three Sites, Southern Sacramento Valley Williamson, Robert J; Fogg, Graham E; Rains, Marc Cable; Harter, Thomas H University of California, Davis. Department of Land, Air and Water Resources April 2005

Cost of Ownership of Intelligent Transportation Systems in the California Transportation Infrastructure NewPoint Group April 2003

Pile Foundations in Liquefied and Laterally Spreading Ground During Earthquakes: Centrifuge Experiments & Analyses Boulanger, Ross W; Brandenberg, Scott J.; Singh, Priyanshu; Chang, Dongdong University of California, Davis. Dept. of Civil and Environmental Engineering September 2003

The Use of Compost and Co-Compost as a Primary Erosion Control Material Classen, V. P.
University of California, Davis. Dept. of Land, Air and Water Resources March 2001

Efficient Deployment of Advanced Public Transportation Systems - Phase 2: EDAPTS: A Smart Transit System for Small Transit Agencies Gerfen, Jeffrey California Polytechnic State University, San Luis Obispo June 2003

FREQ Model Improvements and Training May, Adolf D.; Leiman, Lannon University of California, Berkeley. Institute of Transportation Studies June 2005

California State of the Pavement Report, 2004 California Department of Transportation. Division of Maintenance July 2005

Development of BRT Architecture: A System Engineering Approach Hickman, Mark; Tan, Chin-Woo; Lau, Peter; Zhang, Wei-Bin California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.) June 2006

New Approach to Bottleneck Capacity Analysis: Final Report Banks, James H California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.) June 2006

Development of a Modeling Framework for Analyzing Improvements in Intermodal Connectivity at California Airports Lu, Xiao-Yun; Gosling, Geoffrey D.; Shladover, Steven E.; Xiong, Jing; Ceder, Avi California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.) July 2006

Commercially-off-the-Shelf (COTS) and Emerging Technologies Sensor Testing and Evaluation Sharafsaleh, Ashkan California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.) July 2006

Initial Scoping of Bay Area Smart Mobility Corridors and ITS World Congress Shaheen, Susan California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.) November 2004

Effects of Traffic Density on Communication Requirements for Cooperative Intersection Collision Avoidance Systems (CICAS) Shladover, Steven E. California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.) March 2005

Virtual Commercial Vehicle Control Stations for California: A Review of Legal and Institutional Issues Rodier, Caroline J.; Shaheen, Susan A.; Cavanagh, Ellen California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.) November 2005

Integrated Hydrogen and Intelligent Transportation Systems Evaluation for the California Department of Transportation Lipman, Timothy E.; Shaheen, Susan A. California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.) November 2005

TravInfo Evaluation: Traveler Response Element Willingness to Pay for Traveler Information:

Analysis of Wave 2 Broad Area Survey Wolinetz, Louis; Khattak, Asad J.; Yim, Y.B. Youngbin
California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation
Studies; Partners for Advanced Transit and Highways (Calif.) January 2001

PEDAMACS: Power Efficient and Delay Aware Medium Access Protocol for Sensor Networks
Coleri, Sinem; Varaiya, Pravin California. Dept. of Transportation; University of California,
Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.)
July 2004

Traffic Measurement and Vehicle Classification with a Single Magnetic Sensor Cheung, Sing
Yiu; Coleri, Sinem; Dundar, Baris; Ganesh, Sumitra; Tan, Chin0Woo; Varaiya, Pravin California.
Dept. of Transportation; University of California, Berkeley. Institute of Transportation Studies;
Partners for Advanced Transit and Highways (Calif.) September 2004

Berkeley Highway Lab Video Data Collection System Chen, Chao; Lyddy, Daniel; Dundar, Baris
California. Dept. of Transportation; University of California, Berkeley. Institute of Transportation
Studies; Partners for Advanced Transit and Highways (Calif.) November 2004

Safety Performance and Robustness of Heavy Vehicle AVCS Taylor, R. Jemonde; Yih, Paul;
Gerdes, J. Christen California. Dept. of Transportation; Stanford University. Dept. of Mechanical
Engineering; University of California, Berkeley. Institute of Transportation Studies; Partners for
Advanced Transit and Highways (Calif.) April 2005

Mobile Traffic Management System Test Deployment Gerfen, Jeffrey Brian California. Dept. of
Transportation; California Polytechnic State University, San Luis Obispo; University of California,
Berkeley. Institute of Transportation Studies; Partners for Advanced Transit and Highways (Calif.)
April 2005